in college, it seems to me perhaps as good an epitome as we possess, within so narrow limits, of the facts and principles of organic evolution.

FRANK R. LILLIE.

Produits aromatiques artificiels et naturels. By GEORGES F. JAUBERT, Docteur és Sciences, ancien Préparateur de Chimie á l'École Polytechnique. (Encyclopédie scientifique des Aide-Mémoire.) Petit in-8. Pages 169.

This is the sequel to the author's previous book 'Matières odorantes artificielles' (reviewed in this JOURNAL, XI., 710), and resembles it closely in all respects. The former volume contained the nitro and halogen derivatives, phenols, and aldehydes; while, in the present one, the remaining odoriferous substances are grouped in the following chapters:

I. Aromatic alcohols (34 listed).
II. Aromatic acids and their derivatives (70 listed).
III. Terpenes (22 listed).
IV. Camphors (20 listed).
V. Terpene alcohols, aldehydes, and acids (10 listed). This includes such compounds as geraniol, citral and ionone, but no terpene *acids* are mentioned.

There are in all 169 pages—41 pages of text (including the Preface), 121 pages of tables, and 7 pages of index.

No one could guess from the title just what might be the scope of this book, and most chemists, even after a careful examination, will still be in doubt as to what the author is endeavoring to tabulate, for many of the compounds listed are 'aromatic' only to the extent of containing a benzene nucleus and have not the remotest interest in perfumery, although the author's idea of a perfume seems to be different from that of most chemists, since he says on page 48: "Les acides benzoique et cinnamique sont á l'état pur des parfums puissants."

The column in the tables headed 'Literature and Patents' is unsatisfactory, being either meagre and not up to date, or else merely a reference to some larger work and not to the original article at all; while, in spite of the heading, not a single patent reference is given in the entire book.

By endeavoring to expand to two volumes what could much better have been given in one, the author has been forced to introduce a large amount of wholly extraneous material, and has thus completely defeated the main object of memory aid, which is to present the important facts concisely and entirely free from all that is either irrelevant or of only remote interest.

MARSTON TAYLOR BOGERT.

COLUMBIA UNIVERSITY.

The Compendious Manual of Qualitative Chemical Analysis of C. W. ELIOT and F. H. STORER, as revised by W. R. NICHOLS. Nineteenth edition, newly revised by W. B. LINDSAY, Professor of general and analytical chemistry in Dickinson College, and F. H. STORER, Professor of agricultural chemistry in Harvard University. New York, D. van Nostrand Co. 1899. Pp. 202. Price, $1.25.

It is now over thirty years since the first edition of this book was published, and throughout this time it has held its place as one of the best simple manuals. The present edition is thoroughly modern and satisfactory. It is the avowed scheme of the editors to give but one method for each separation, and considering the elementary nature of the book their choice of methods must be commended. In its present form 'Eliot and Storer' will maintain its past reputation.

E. RENOUF.

Victor von Richter's Organic Chemistry or Chemistry of the Carbon Compounds. Edited by PROFESSOR R. ANSCHÜTZ, University of Bonn. Authorized translation by EDGAR F. SMITH, Professor of Chemistry, University of Pennsylvania. Third American from the eighth German edition. Vol. II. Carbocyclic and Heterocyclic Series. Philadelphia, P. Blakiston's Sons & Co. 1900. Pp. 671. Price, $3.00.

The first volume of this book was reviewed in SCIENCE, Vol. IX., p. 729. The praise given to the first volume should be extended to the second. One needs merely to open the volume at random and read, to recognize the merits of the book. The chapters on diazo compounds, on azines, on terpenes, on quinones are notable examples of thoroughness, and of the amount of recent research often condensed into a few lines.

It must be noted that this is not a book for

beginners. A student with some knowledge of organic chemistry could use it as a text-book if it were possible for him to resolutely confine his attention to the 'coarse print.' But it is as a reference book for the student who wishes to refresh his memory not merely of one compound, but of the complete chemistry of a group of compounds, that the work is of peculiar value, and may be cordially recommended.

EDWARD RENOUF.

Optical Activity and Chemical Composition. By DR. H. LANDOLT, Professor of Chemistry in the University of Berlin. Translated, with the author's permission, by JOHN MCCRAE, Ph.D. Whittaker and Co., London, and the Macmillan Co., 66 Fifth Ave., New York. 1899. Small 8vo. Pp. 158. Price, $1.00.

This little book forms a translation of the eighth chapter of the first volume of Graham-Otto's 'Lehrbuch der Chemie' and is a smaller and condensed edition of the author's well-known 'Das optische Drehungsvermögen organischer Substanzen und dessen praktische Anwendungen,' published in 1898. The subject is treated under three heads: I. General Principles of Optical Activity; II. Connection between the Rotatory Power and the Chemical Composition of Carbon Compounds, and III. Connection between Degree of Rotation and Chemical Constitution. Under the first head are discussed such subjects as crystal rotation, liquid rotation, molecular rotation, measurement of rotation, specific rotation, variations of specific rotation with concentration and change of rotatory power of dissolved substances with time, multirotation. Under the second head are treated optical modifications, the investigations of Pasteur, the van't Hoff and Le Bel theory, calculation of the number of optically active isomers of a compound from the number of asymmetric carbon atoms which it contains, the formation and properties of racemic compounds, resolution of racemic substances into the antipodes, formation and properties of the active modifications, transformation of one antipode into the other, the configurationally inactive non-decomposable modifications and their differences from racemic inactive isomers. Under the third head are taken up isomeric compounds, including stereoisomers, homologous series, influence of the mode of linkage of the carbon atoms, summation of the rotatory actions of several asymmetric groups, optical superposition and the dependence of the rotatory power of an active atomic grouping on the masses of the four radicles united to the asymmetric carbon atom, the hypothesis of Guye.

The translation is well done and the subject is brought up to date by notes and additions by the translator. The subject is presented in a very attractive and readable form and the book can be heartily recommended to anyone, who desires to know the present state of our knowledge regarding the relation existing between optical activity and chemical composition; though for more detailed information Landolt's 'Das optische Drehungsvermögen organischer Substanzen und dessen praktische Anwendungen' must be used.

W. R. ORNDORFF.

SCIENTIFIC JOURNALS AND ARTICLES.

THE *Osprey* for April, a little belated, opens with the fourth part of 'Birds of the Road,' by Paul Bartsch. Wm. L. Wells describes the 'Nesting of some Rare Birds,' including the yellow rail and solitary sandpiper, and Theodore Gill presents the second part of 'William Swainson and his Times' which carries Swainson through his journey to Brazil. In editorial comments under 'Birds and Women' the situation is summed up in a few words "If the demand exists for anything, that demand will be supplied if it can be done with a profit." Under Notes is to be found an extraordinary account of 'How Two Lions stopped an African Railroad,' and other matters of interest.

A Bulletin of Mathematics and of the Physical and Natural Sciences, to be published semi-monthly in the interest of teachers in Italian schools, has been established by Professor Alberto Conti, of Bologne.

SOCIETIES AND ACADEMIES.

GEOLOGICAL SOCIETY OF WASHINGTON.

THE 101st meeting of the Society was held at the Cosmos Club April 11, 1900.